

# SEABIRD ISLANDS

# No. 222

## Fairfax Islands, Great Barrier Reef, Queensland

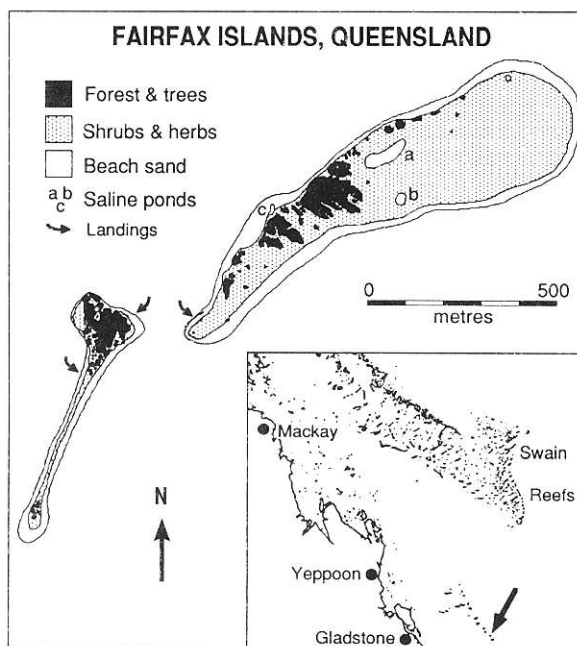
**Location:** 23°50'S, 152°20'E; 56 kilometres north-east of Round Hill on the mainland and 110 kilometres east of Gladstone, Queensland. Part of the Bunker Group of islands.

**Status:** Fauna Reserve since 1935 and National Park since 1937.

**Description:** The islands comprise a large eastern cay and a smaller western cay that is sometimes cut in two resulting in three islands, as in 1927<sup>11</sup> and in 1966<sup>1</sup>.

**EASTERN CAY:** 16 ha; 1 140 m × 240 m. The cay is composed of coral shingle and has two pools of brackish water. Guano mining<sup>5</sup> in 1898 appears to have cleared trees and substantially altered the surface. Craters from naval target practice in the 1940s, 1950s and 1960s<sup>3</sup>, are up to 8 m wide and 4 m deep. The vegetation was severely affected and the surface of the cay kept almost bare by a herd of goats between 1898 and 1972<sup>4</sup> (one remaining goat was removed in 1983). A *Pisonia grandis* forest occupies the central northern side and a stand of *Casuarina equisetifolia* is present at the north-western side. Some *Ficus opposita* and *Tournefortia argentea* trees occur but most of the cay is covered by shrubs of *Wollastonia biflora*, *Abutilon asiaticum* and herbs and grasses. A total of 28 plant species has been recorded<sup>2,4,7</sup>.

**WESTERN CAY:** 3 ha; roughly 220 m in greatest width, with a 'tail' of variable length. The cay is composed of coral shingle and sand extending to a narrow 600 m long sand spit at the south-western end. The spit can be severed by storms and on at least two occasions this century the end was isolated to give a third island<sup>4</sup>. The cay is covered by *Pisonia* forest except at the south-western side. Other trees include *F. opposita*, *C. equisetifolia*, *Tournefortia argentea* and *Pandanus tectorius*. The sand spit is presently vegetated along its length although in the past it has been bare following overwash by waves<sup>4</sup>. *Tournefortia* and *Casuarina* trees are well developed at the south-western end. A total of 26 plant species has been recorded<sup>2,4,7</sup>.



**Landing:** Visitation requires a permit as the islands are gazetted Restricted Access under the National Parks and Wildlife Act. Access is usually across the reef flat at the north-western side during high tide. Care must be taken to avoid rubble banks. Visits are discouraged when Brown Boobies are nesting because disturbance results in heavy predation on eggs by gulls.

**Ornithological History:** MacGillivray<sup>11</sup> and Nebe<sup>12</sup> recorded birds on 20 November 1927. Embury<sup>6</sup> noted birds in December 1937. Booth<sup>1</sup> lived on the western cay from January 1966 to May 1970 and compiled a list of birds. Hulsman<sup>8,9</sup> surveyed seabirds from 9 to 11 January 1983. Leggett<sup>10</sup> recorded birds between 25 August and 1 September 1984. S. Domm recorded birds on one or both cays on 10 occasions between 30 March 1983 and 9 December 1984. T. Walker recorded birds on one or both cays on 10 occasions between 28 July

1983 and 27 September 1984, on eight occasions between 12 December 1985 and 20 March 1987<sup>14,15,16</sup> and on 16 December 1990. S. G. Lane accompanied Walker on 18 December 1986 to band Brown Booby chicks.

### Breeding Seabirds and Status

*Puffinus pacificus* Wedge-tailed Shearwater — Breeding birds are present from September to May but leave the region in winter. In January 1983 about 500 pairs occupied burrows in the *Pisonia* forest on the western cay. Some 30–50 pairs nest on the eastern cay.

*Sula leucogaster* Brown Booby — All visitors to the cays have commented on the large booby colony. Ellis<sup>5</sup> noted 'many thousands' in the 1890s and Nebe mentioned 'thousands' in December 1931<sup>12</sup>. Booth<sup>1</sup> reported that nesting commenced in October in 1966, 1967 and 1968, and in August in 1969. In recent years eggs have been found in all months but mass laying commenced in late August. Highest numbers of nesting pairs were present from September to February, followed by a decline to almost none in May–July. In January 1983, there were 1 810 adults with more than 900 juveniles and chicks<sup>8</sup>. On the eastern cay in December of 1983 and 1984 about 3 000 chicks were estimated to be present as well as a small number of eggs. In December 1990 more than 4 000 pairs were estimated to be nesting with roughly half incubating eggs and half with large chicks. On the western cay 300 pairs or more were estimated to nest in 1983–84, 1984–85 and 1990–91. Eggs are laid on the ground (with or without a nest) in open areas or in the forest.

*Egretta sacra* Eastern Reef Egret — Recorded breeding in 1927<sup>11</sup> and 1966–70<sup>1</sup>. In recent years a nest has been found occasionally on both islands. A maximum of 90 egrets was recorded at the cays and reef.

*Haematopus longirostris* Pied Oystercatcher — Recorded nesting from September to October in 1966–70<sup>1</sup>. In recent years both the eastern and western cays have often had up to four birds present (one record of seven on the large cay). An unfledged juvenile was present in October 1986, on the eastern cay.

*Haematopus fuliginosus* Sooty Oystercatcher — Nesting was reported in the period September to October in 1966–70<sup>1</sup>. In recent years up to four birds were often present at each cay, and nesting aggression was sometimes observed (also in 1927<sup>11</sup>) but nests were not located.

*Larus novaehollandiae* Silver Gull — August nesting was reported in 1945<sup>17</sup>. October nesting was reported in 1966–70<sup>1</sup>. In recent years up to 400 gulls have been present at the eastern cay and a few dispersed nests were located in most months except June and July<sup>16</sup>. Comprehensive nest counts cannot be made without causing heavy predation of Brown Booby eggs. At the western cay up to five occupied nests have been observed on the spit and occasionally up to 120 gulls have been recorded.

*Hydroprogne caspia* — Caspian Tern — A pair was reported on the sand spit with two eggs in August 1984<sup>10</sup>. This is an isolated event by vagrant birds as a Caspian Tern has been recorded fewer than a dozen times in the vicinity of the Capricorn–Bunker Islands this century.

*Sterna dougallii* Roseate Tern — Nesting was reported on the spit in the period 1966 up to 1970 but no details were given<sup>1</sup>. The only other breeding record is of two nests with eggs at the end of the spit on 25 September 1983.

*Sterna sumatrana* Black-naped Tern — Nesting was reported in December 1937<sup>6</sup> and in the period 1966 to 1970 in November or April<sup>1</sup>. Thirty pairs



● Fairfax Islands from the air (looking west).

Photo: T. A. Walker

nested in January 1986 at the end of the western cay sand spit<sup>14</sup> and small colonies were present in 1988 and 1989.

*Sterna anaethetus* Bridled Tern — Small numbers breed from October to January under *Wollastonia* and other shrubs on both cays. There are no records prior to 1961<sup>1</sup>. The estimated number on the eastern cay on 7 January 1983 was 26<sup>8</sup> and the population has not changed significantly in subsequent years. On the western cay three were seen in December 1985 and fewer than 20 nested in subsequent years.

*Sterna albifrons* Little Tern — Nests were reported in exposed positions on the beach in December 1937<sup>6</sup> and nesting was recorded in the period 1966–1970 but no details were given<sup>1</sup>. In recent years up to 210 were sometimes present on the beach in summer. Although breeding plumage was common, juveniles that had undergone their first post-fledging moult were present. There are no nesting reports on any Capricorn or Bunker Island since 1971.

*Sterna bergii* Crested Tern — A small colony was noted on the eastern cay in November 1927<sup>11</sup> and nesting was reported in the 1966–70 period<sup>1</sup>. In January 1986 there were 240 birds with at least 20 chicks and runners visible at the western end of the eastern cay<sup>15</sup>. At the same site on 16 December 1986 there was a colony with 53 nests with eggs and 220 adults preparing to lay. By February, 500 adults and fledglings, plus 25 runners, were present. Colonies also were recorded in early 1987 and 1988.

*Sterna bengalensis* Lesser Crested Tern — Nesting was reported in the 1966–70 period but no details were given other than the site was the same one used by Crested Terns<sup>1</sup>. No other nesting is recorded and, in later years, birds were sighted infrequently (1–10 birds on six occasions).

*Anous minutus* Black Noddy — Nesting was recorded in November 1927<sup>11,12</sup> and in summer in 1966–70<sup>1</sup>. In January 1983 there were an estimated 670 birds nesting on both islands<sup>8</sup>. In December 1990 the eastern cay had 2 100 pairs nesting in *Pisonia* trees with probably a larger population on the western cay. Few birds are present during winter and the main population arrives to breed in August–September each year.



● Brown Boobies nesting on East Fairfax Island (western end).

Photo: T. A. Walker

### Factors Affecting Status

Relatively few shearwaters nest on the eastern cay because its rubble substrate is not suitable for digging burrows. The distribution of burrows on the western cay is limited to the extent of the vegetation. Most burrows occur at one site in the *Pisonia* forest.

The breeding of seabirds is affected by rats and gulls. Rats occur on both islands and presumably prey on eggs and hatchlings. This, no doubt, is why Bridled Terns, which show nesting site fidelity, breed in such low numbers.

Silver Gulls prey on eggs of boobies and steal food from the young. Adults and young are harrassed by gulls when parents feed their young. High numbers of booby eggs are taken by gulls when people walk through the eastern cay and disturb the parent birds. This is also a problem on the western cay.

In addition, boobies have to run the aerial gauntlet of frigatebirds. Often more than 60 Great Frigatebirds await incoming boobies. Some attacks are successful in forcing the boobies to regurgitate the food but flocks of gulls often beat the frigatebirds to the prize.

Prior to the removal of the goats (up to 85) the numbers of Black Noddies on the eastern cay may have been restricted by a lack of fallen leaves or

foliage for nest construction<sup>4</sup>. Bridled Terns were probably absent until shrubbery grew back following departure of the goats. The goat herd may also have trampled tern nests and shearwater burrows. In contrast, regrowth of dense shrubbery may reduce the area suitable for booby nesting. Some noddy and shearwater mortality results from entanglement with sticky *Pisonia* fruits.

White-bellied Sea-Eagles *Haliaeetus leucogaster* occur and may prey on seabirds. A small amount of interference from nesting turtles may occur to terns nesting on the western sand spit area. The spit is known to have been overwashed by storms<sup>4</sup> and at one time it supported booby nesting<sup>11</sup>.

### Other Seabirds Recorded

<i>Diomedea exulans</i>	Wandering Albatross <sup>1</sup> (1 record)
<i>Macronectes giganteus</i>	Southern Giant Petrel <sup>1</sup> (1 record)
<i>Sula sula</i>	Red-footed Booby <sup>1</sup> (1 record)
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant (uncommon, max. 50)
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant (uncommon)
<i>Fregata minor</i>	Great Frigatebird (up to 57 in <i>Casuarina</i> trees on western cay. Nine old nests thought to belong to frigatebirds were noted in 1937 <sup>6</sup> .)
<i>Fregata ariel</i>	Least Frigatebirds (max. 48 overhead)
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird (rare, overhead)
<i>Ardea novaehollandiae</i>	White-face Heron (rare, max. 2)

### Banding

Period 1966 to 1969; 1985; 16 December 1986.

*Sula sula* — 2 immatures.

*Sula leucogaster* — 7 adults, 658 young.

*Phalacrocorax melanoleucos* — 2 young.

*Larus novaehollandiae* — 5 chicks.

### Bibliography

- Booth, J. (1970). Birds of Fairfax Island (Bunker Group) and Wreck Island (Capricorn Group), Great Barrier Reef. *Sunbird* 1: 85–92.
- Chaloupka, M. Y. and Domm, S. B. (1985). Comprehensive regional survey of the terrestrial flora on coral cays in the Capricornia Section of the Great Barrier Reef Marine Park. *Proc. R. Soc. Qld* 96: 75–80.
- Cribb, A. B. (1986). Some historical notes on Fairfax Islands, Great Barrier Reef. *Qld Nat.* 26: 115–118.

- Cribb, A. B. (1986). The terrestrial vegetation on Fairfax Islands, Great Barrier Reef. *Qld Nat.* 26: 119–126.
- Ellis, A. F. (1936). 'Adventuring in coral seas.' (Angus and Robertson: Sydney.)
- Embury, E. M. (1939). Sea-birds of the Great Barrier Reef. *Walkabout* 5(4): 13–16.
- Heatwole, H. (1984). Terrestrial vegetation of the coral cays, Capricornia Section, Great Barrier Reef Marine Park. In 'The Capricornia Section of the Great Barrier Reef — Past, present and future' pp. 87–139 (Roy. Soc. Old and Aust. Coral Reef Soc.: Brisbane.)
- Hulsman, K. (1983). Survey of seabird colonies in the Capricornia Section of the Great Barrier Reef Marine Park II. Population parameters and some management options. Research Report to Great Barrier Reef Marine Park Authority: Townsville.
- Hulsman, K. (1984). Survey of seabird colonies in the Capricornia Section of the Great Barrier Reef Marine Park III. Population parameters and management strategies. Research Report to Great Barrier Reef Marine Park Authority: Townsville.
- Leggett, R. (1986). Birds seen on Fairfax Islands, 25th August–1st September, 1984. *Qld Nat.* 26: 127–128.
- MacGillivray, W. (1928). Bird-life of the Bunker and Capricorn Islands. *Emu* 27: 230–249.
- Nebe, J. (1932). A naturalist's holiday on the Great Barrier Reef. *Qld Nat.* 6: 102–108.
- Nebe, J. (1932). A second holiday on the Barrier Reef islands. *Qld Nat.* 8: 54–59.
- Walker, T. A. (1986). Black-naped Terns *Sterna sumatrana* on the southern Great Barrier Reef, 1985–1986. *Corella* 10: 123–124.
- Walker, T. A. (1987). Crested Terns *Sterna bergii* on the southern Great Barrier Reef islands, 1985–1986. *Corella* 12: 53–56.
- Walker, T. A. (1988). The population of the Silver Gull *Larus novaehollandiae* on the Capricorn and Bunker Islands. *Corella* 12: 113–118.
- Wheeler, W. R. and Watson, I. (1963). The Silver Gull *Larus novaehollandiae* Stephens. *Emu* 63: 99–173.

### Acknowledgments

We thank the Great Barrier Reef Marine Park Authority, the Department of the Premier (Queensland) and Griffith University for financial support. Logistic support is acknowledged from the Department of Environment and Heritage and Heron Island Research Station.

Date compiled: July 1990. Revised: January 1991.

T. A. Walker, Department of Environment and Heritage, P.O. Box 5391, Townsville, Queensland 4810.

K. Hulsman, Faculty of Environmental Sciences, Griffith University, Nathan, Queensland 4111.

S. Domm, Department of Environment and Heritage, P.O. Box 1395, Rockhampton, Queensland 4700.